



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,969	06/21/2000	Roberto Aiello	FAN-00-012	7157

7590

09/30/2003

Luce, Forward, Hamilton & Scripps LLP  
11988 El Camino Real  
Suite 200  
San Diego, CA 92130

EXAMINER

AHN, SAM K

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 09/30/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/599,969

Applicant(s)

AIELLO ET AL.

Examiner

Sam K Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-21 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, and 17-21 drawn to subject matter relating to a transmitter, classified in class 375, subclass 295.
  - II. Claims 12-16 drawn to subject matter relating to synchronization in a multiplex communication, classified in class 370, subclass 503.
2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case have two different inventions. They have different modes of operations. Group I is directed to a transmitter, while Group II directed to synchronization in a multiplex communication environment.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Peter Martinez on Sept. 16, 2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11 and 17-21. Affirmation of this election must be made by applicant in replying to this Office action.

Art Unit: 2634

Claims 12-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicants reserve the right to file a provisional application for the non-elected Group II comprising claims 12-16.

***Information Disclosure Statement***

6. The information disclosure statement filed on 09/03/02 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

This is to advise that a copy of the reference listed in no.61 on the third page of IDS, form PTO 1149, is missing and has not been considered.

***Specification***

7. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

8. Claim 4 is objected to because of the following informalities: It is suggested in line 3 of claim 4 by changing "frequency, of said" to "---frequency of said ---". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. Claim 6 recites the limitation "said pulse repetition frequency module" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Fullerton ('927).

Regarding claim 1, Fullerton discloses a transmitter system (see Fig.10), comprising a data modulation unit (1008, 1016 and 1204 in Fig.10) configured to generate a digital data stream of pulse data which is synchronized with a master clock

Art Unit: 2634

provided by time base (1002). A transmitter unit (1028) coupled to the data modulation unit receives said digital data stream of pulse data generated a radio frequency pulse stream. Further, an antenna (1030) coupled to the transmitter unit transmits said RF pulse stream. (note col.13, line 23 – col.15, line 62)

Regarding claim 2, Fullerton discloses all subject matter claimed, as applied to claim 1. Fullerton further discloses said RF pulse stream is an ultra wide band pulse stream. (note col.14, lines 15-17)

Regarding claim 3, Fullerton discloses all subject matter claimed, as applied to claim 2. Fullerton discloses that in the data modulation unit comprises a pulse amplitude modulation (1022), which modulates the received data from information source (1018) and performs amplitude modulation. (note col.14, lines 44-58) It is well-known in the art that amplitude modulation functions by varying the amplitude of data.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton ('927).

Regarding claim 4, Fullerton discloses all subject matter claimed, as applied to claim 2. Fullerton further teaches pulse repetition frequency which is configured to vary the pulse repetition frequency between 0.7 and 10 megapulse per second. (note col.9, lines 6-27) Fullerton teaches pulse generated modulation is further required. Although Fullerton does not explicitly disclose the pulse repetition frequency module comprised in the data modulation unit, it would have been obvious to one skilled in the art at the time of invention to include the function of pulse repetition frequency in the data modulation unit as it is necessary for the generated pulses to be modulated in order to transmit through the antenna.

Regarding claim 5, Fullerton discloses all subject matter claimed, as applied to claim 3. Fullerton, as explained previously, teaches data modulation unit comprising pulse repetition frequency module and pulse amplitude modulation module. Fullerton, also teaches method of producing different modulation schemes. (note col.14, lines 44-57) Although Fullerton does not explicitly disclose the two module operatively coupled, it would have been obvious to one skilled in the art at the time of invention to implement as such for the purpose of properly producing different modulation schemes, such as FM, AM, FSK, PSK and pulsed FM.

***Allowable Subject Matter***

13. Claims 17-21 are allowable.
14. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
15. The following is a statement of reasons for the indication of allowable subject matter: Prior art discloses a transmitter transmitting an ultra wide band pulse stream produced by the transmitter comprising a data modulation unit, a transmitter unit and an antenna where the data modulation unit further comprises a pulse repetition frequency module and a pulse amplitude modulation module where the two modules are coupled to a transmit module, which is configured to distinguish between different modulation techniques. Closest prior art, Fullerton ('927) teaches, in the same field of endeavor, a transmitter comprising all the elements as recited in the claims 1-5. However, Fullerton does not explicitly teach a transmit module coupled to the pulse repetition frequency module and pulse modulation module configured to distinguish between different modulation techniques. Therefore, prior art does not teach all the limitation as recited in claim 6. Further prior art does not teach all the elements recited in the independent claims 17, 19 and 21 comprised in a transmitter.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Fullerton ('862), Fullerton ('035) and Fullerton ('169) teach a ultra wide band communication system.

McEwan teaches an impulse radar motion sensor comprising a pulse repetition frequency.

Fontana et al. teach a ultra wide band tranceiver for object detection and measurement.

Bauchot et al. teach a medium access control scheme implemented in a wireless LAN environment.

Tang et al. teach ultra wide band transmitter impelementing synthesized short pulses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

**or faxed to:**

**(703) 872-9306**

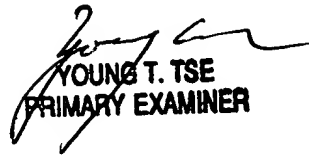
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Application/Control Number: 09/599,969  
Art Unit: 2634

Page 9

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn  
9/17/03

  
YOUNG T. TSE  
PRIMARY EXAMINER